

1. History of Dental Treatment: Slide 1

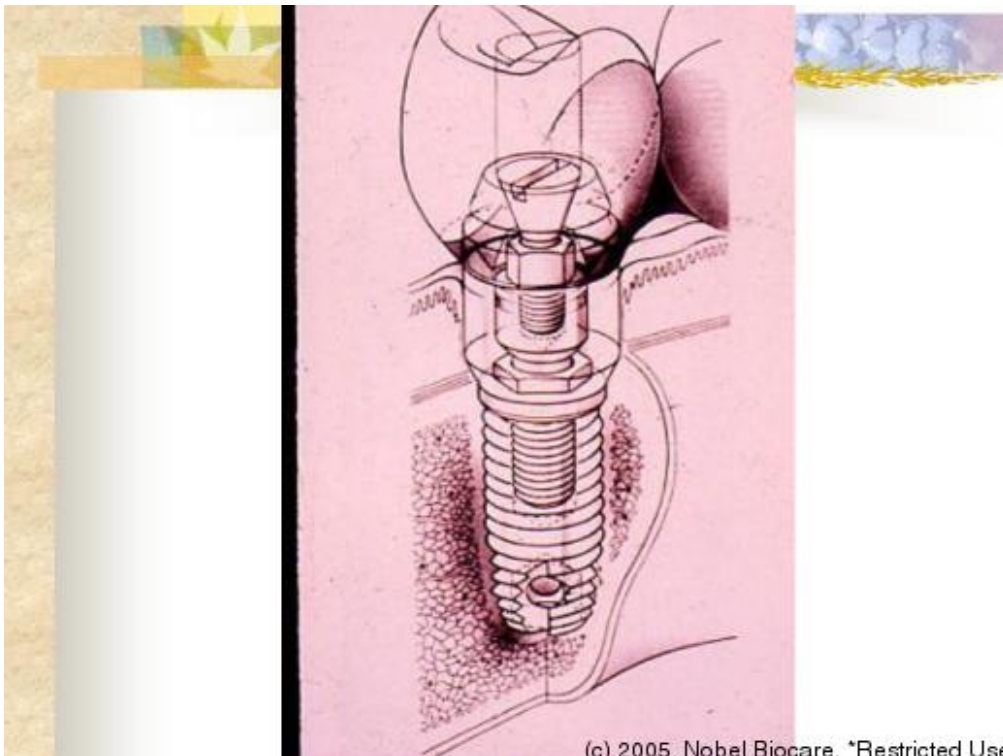
# INTRODUCTION



History of Dental Implants  
Definitions  
Success Rates and Complications

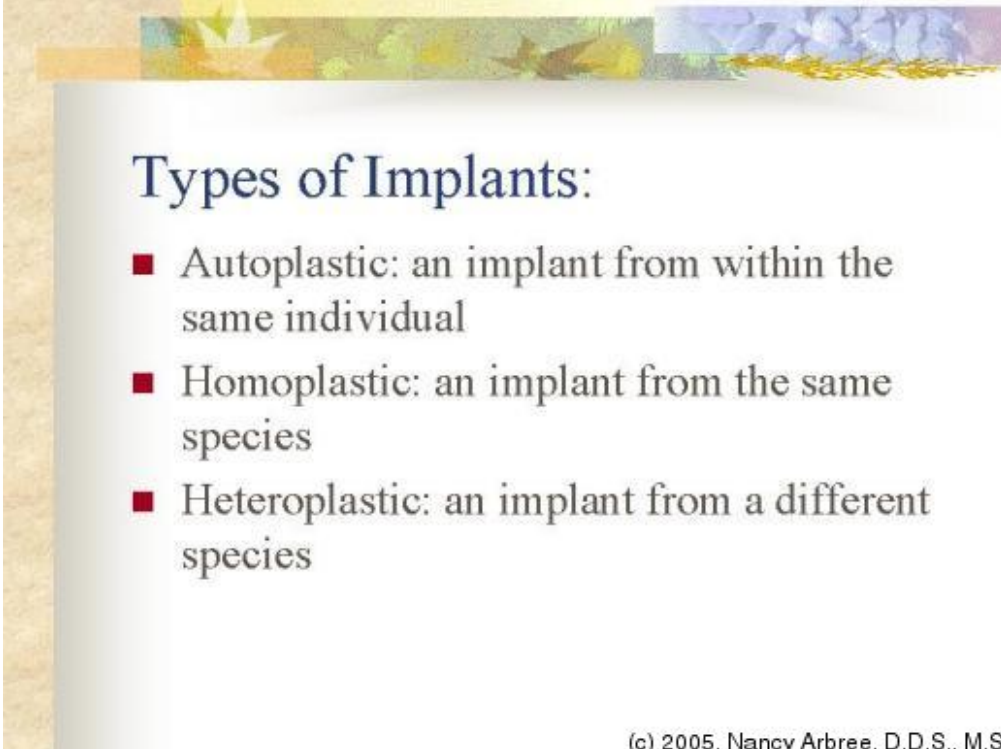
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2. History of Dental Treatment: Slide 2



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3. History of Dental Treatment: Slide 3



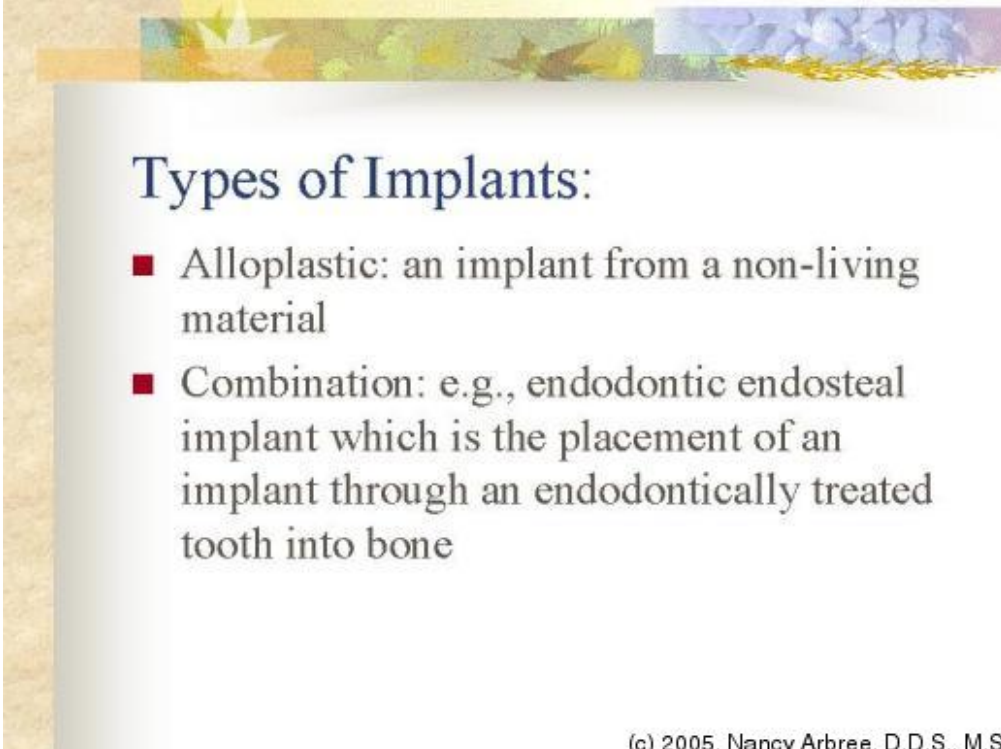
**Types of Implants:**

- Autoplastic: an implant from within the same individual
- Homoplastic: an implant from the same species
- Heteroplastic: an implant from a different species

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The slide features a decorative header with a collage of nature-themed images including leaves and a bird. The main content is presented in a white box with a drop shadow against a light tan background.

4. History of Dental Treatment: Slide 4




**Types of Implants:**

- Alloplastic: an implant from a non-living material
- Combination: e.g., endodontic endosteal implant which is the placement of an implant through an endodontically treated tooth into bone

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5. History of Dental Treatment: Slide 5



## Dental Implant:

- A prosthetic device of alloplastic material implanted into the oral tissues beneath the mucosa and/or periosteal layer, and/or within the bone to provide retention and support for a fixed or removable prosthesis.

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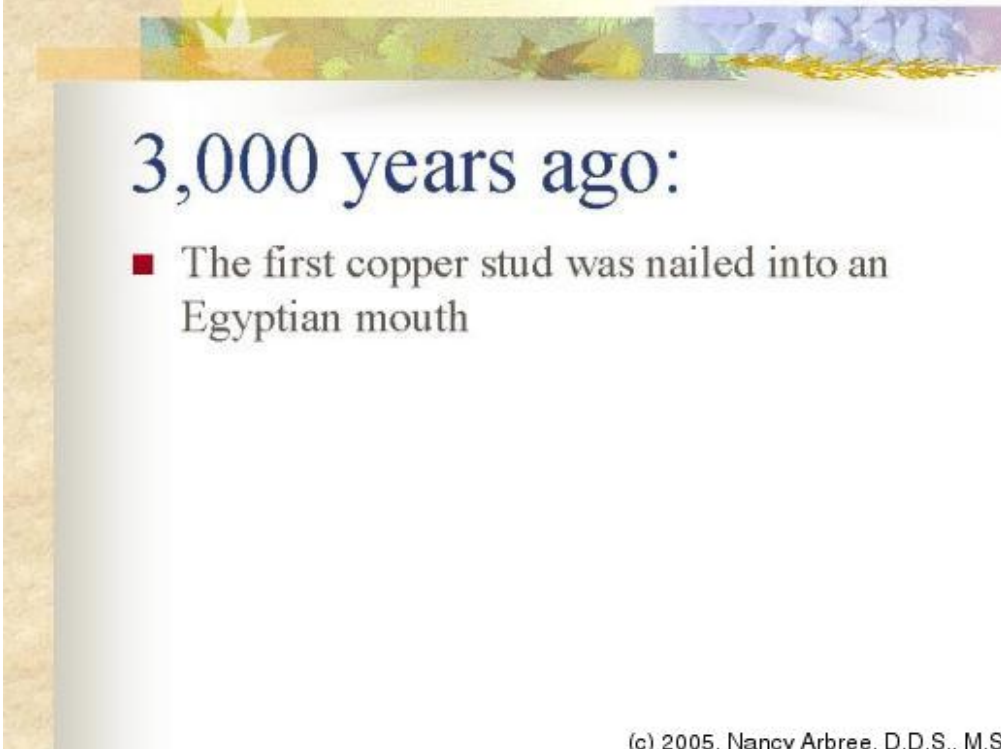
6. History of Dental Treatment: Slide 6

# HISTORY OF DENTAL IMPLANTS



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7. History of Dental Treatment: Slide 7

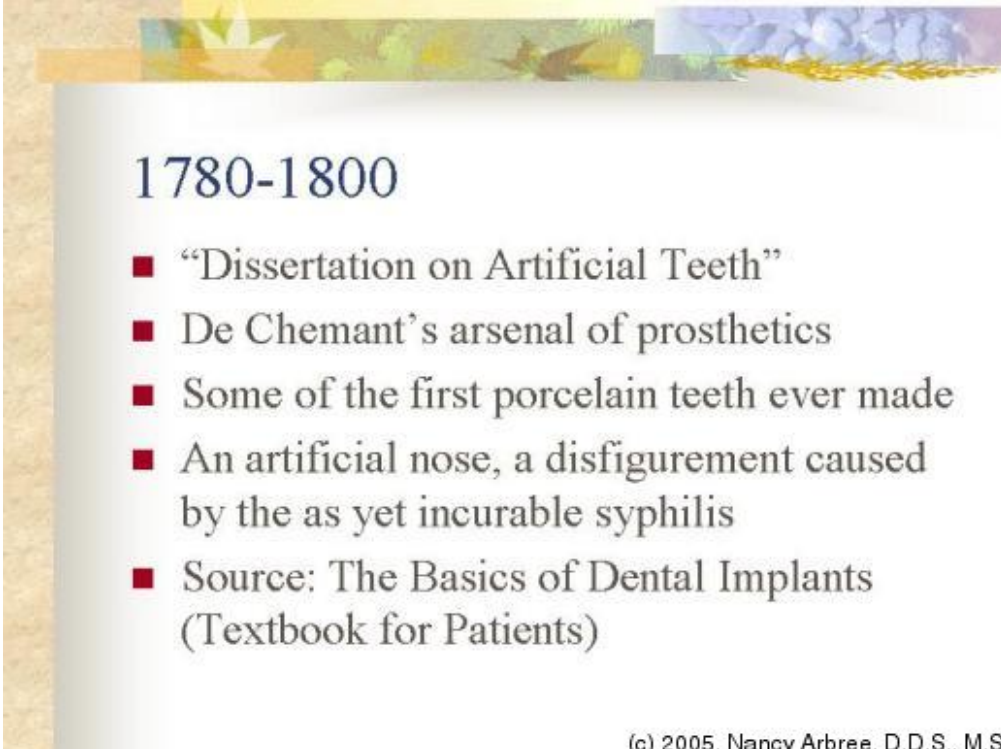


3,000 years ago:

- The first copper stud was nailed into an Egyptian mouth

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8. 1780-1800

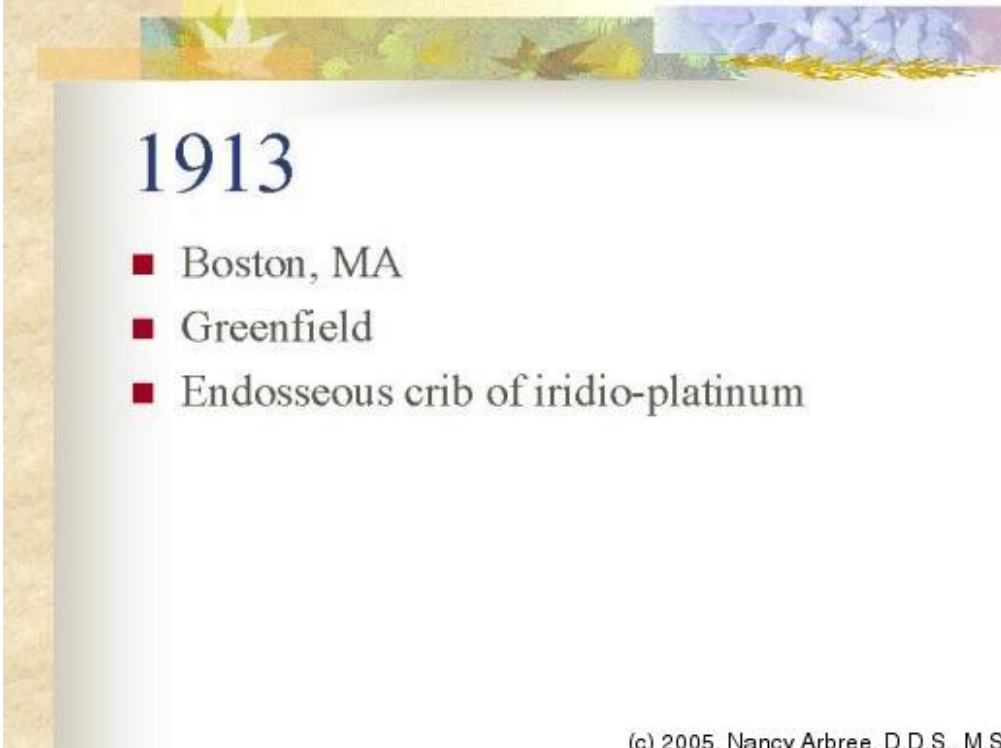


1780-1800

- “Dissertation on Artificial Teeth”
- De Chemant’s arsenal of prosthetics
- Some of the first porcelain teeth ever made
- An artificial nose, a disfigurement caused by the as yet incurable syphilis
- Source: The Basics of Dental Implants (Textbook for Patients)

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9. History of Dental Treatment: Slide 9



1913

- Boston, MA
- Greenfield
- Endosseous crib of iridio-platinum

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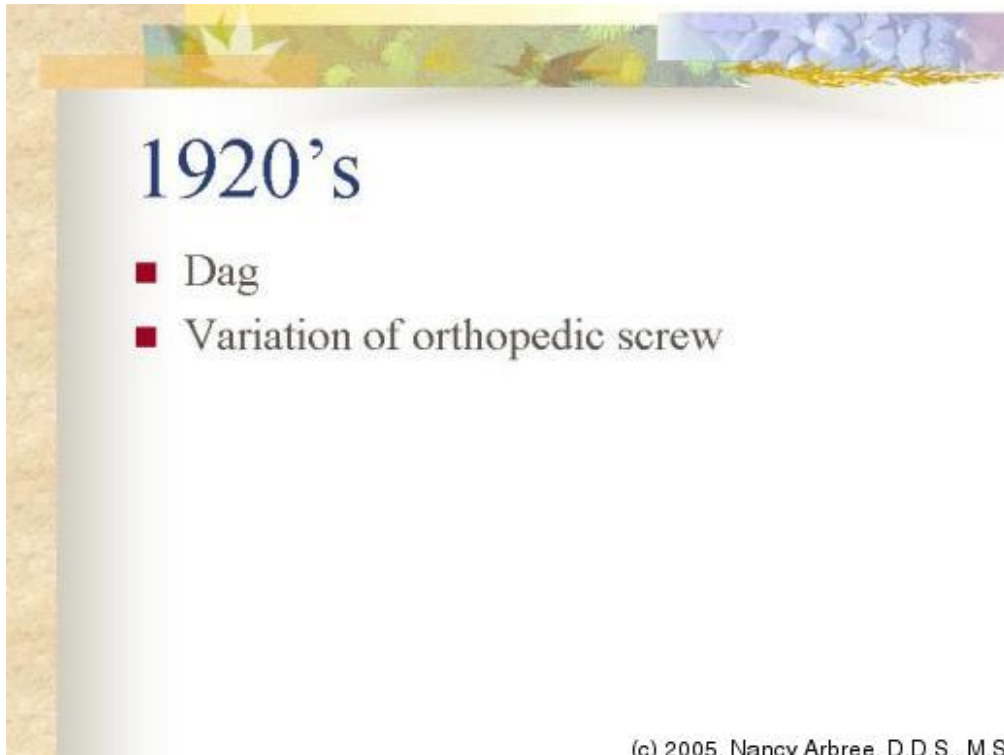
10. History of Dental Treatment: Slide 10



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11.

1920's



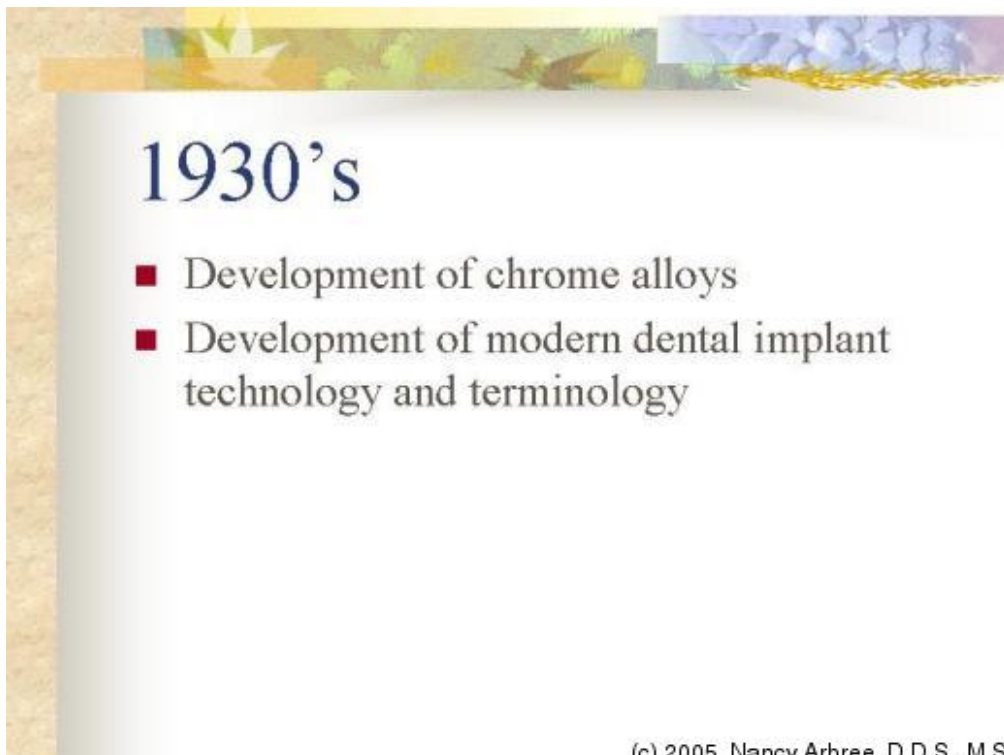
1920's

- Dag
- Variation of orthopedic screw

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12.

1930's




1930's

- Development of chrome alloys
- Development of modern dental implant technology and terminology

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13.

1939-1940



## 1939-1940

- A solid screw by Stock Brothers of Boston in 1939. They screwed a solid screw and false tooth in place and x-rayed the results.
- A corkscrew by Formiggini in 1940's

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14.

1940



## 1940

- Dahl in Germany
- Mucosal inserts
- Intramucosal or button implant (maxilla)
- He also conceived the concept of the subperiosteal implant

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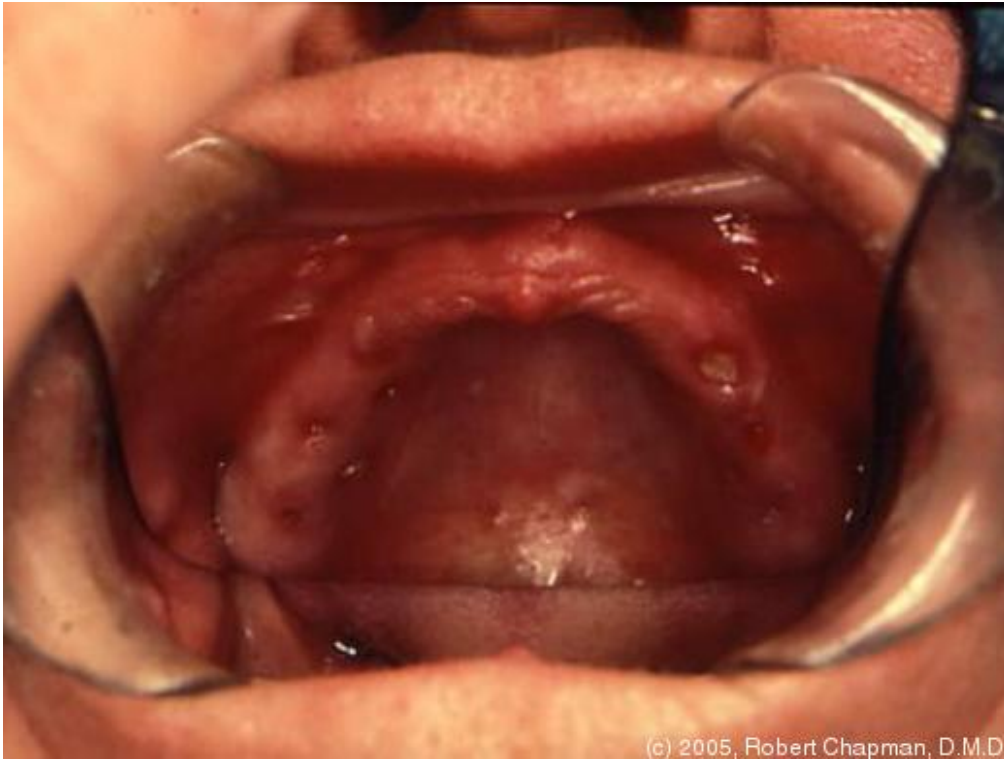
15. History of Dental Treatment: Slide 15



16. History of Dental Treatment: Slide 16



17. History of Dental Treatment: Slide 17




18. History of Dental Treatment: Slide 18



19.

1940's



1940's

- Leger-Dorez
- Four piece implant

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This slide features a decorative header with a collage of nature-themed images including leaves and a bird. The main content is a white box with a drop shadow containing the title '1940's' and a bulleted list of two items: 'Leger-Dorez' and 'Four piece implant'. The slide is set against a light beige background.

20.

1948



1948

- Goldberg and Gershkoff
- Subperiosteal Implant
- Vitallium
- (1984: CT scan design of frameworks eliminated the need for the bone impression)

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This slide features a decorative header with a collage of nature-themed images including leaves and a bird. The main content is a white box with a drop shadow containing the title '1948' and a bulleted list of four items: 'Goldberg and Gershkoff', 'Subperiosteal Implant', 'Vitallium', and '(1984: CT scan design of frameworks eliminated the need for the bone impression)'. The slide is set against a light beige background.

21.

1953



1953

- Sollier, Chercheve and Small
- Vertical transfixation (Transosteal) implant

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22.

History of Dental Treatment: Slide 27



23.

1966



1966

- Linkow
- Endosseous blade-vent implant
- 1967: Roberts
- 1970: Cranin and Dennison

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This slide features a decorative header with a collage of nature-themed images including leaves and a bird. The main content is a list of dental implant milestones from 1966 to 1970, each preceded by a red square bullet point. The slide is set against a light beige background with a subtle drop shadow.

24.

History of Dental Treatment: Slide 29



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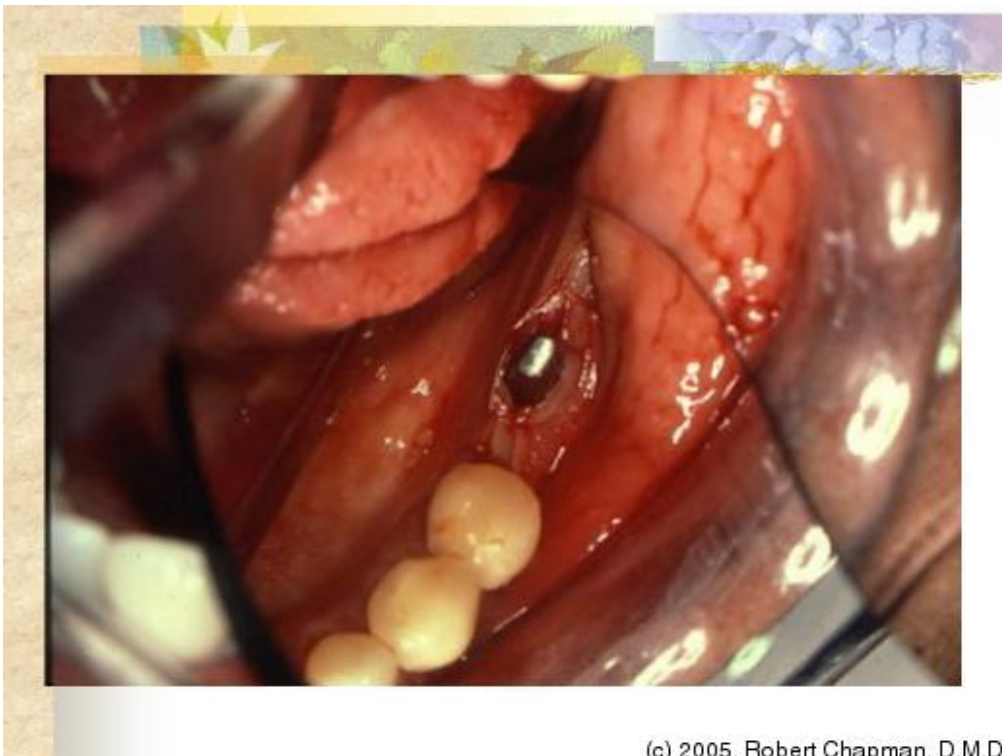
This slide displays a photograph of a metallic dental implant component against a green background. The implant has a cylindrical top section with a hexagonal base, a narrow neck, and a wider rectangular base with three circular holes. A small inset image in the top left corner shows a grid of vertical lines. The slide has the same decorative header as slide 23.

25. History of Dental Treatment: Slide 30



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26. History of Dental Treatment: Slide 31



(c) 2005, Robert Chapman, D.M.D.

27.

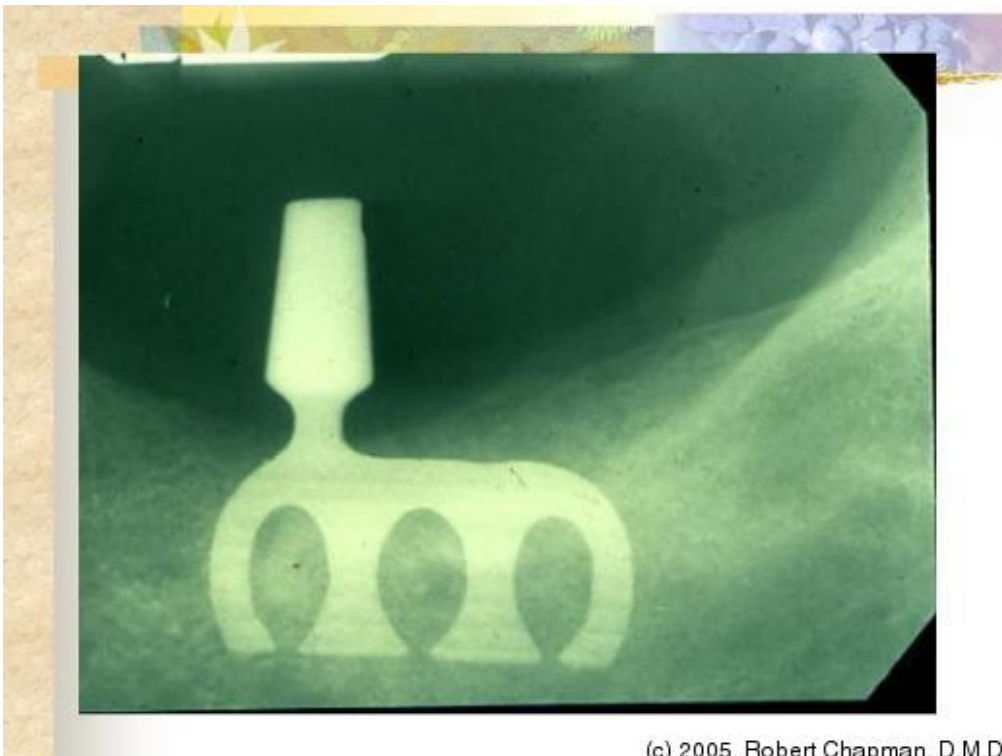
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28.

History of Dental Treatment: Slide 33



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29. History of Dental Treatment: Slide 34



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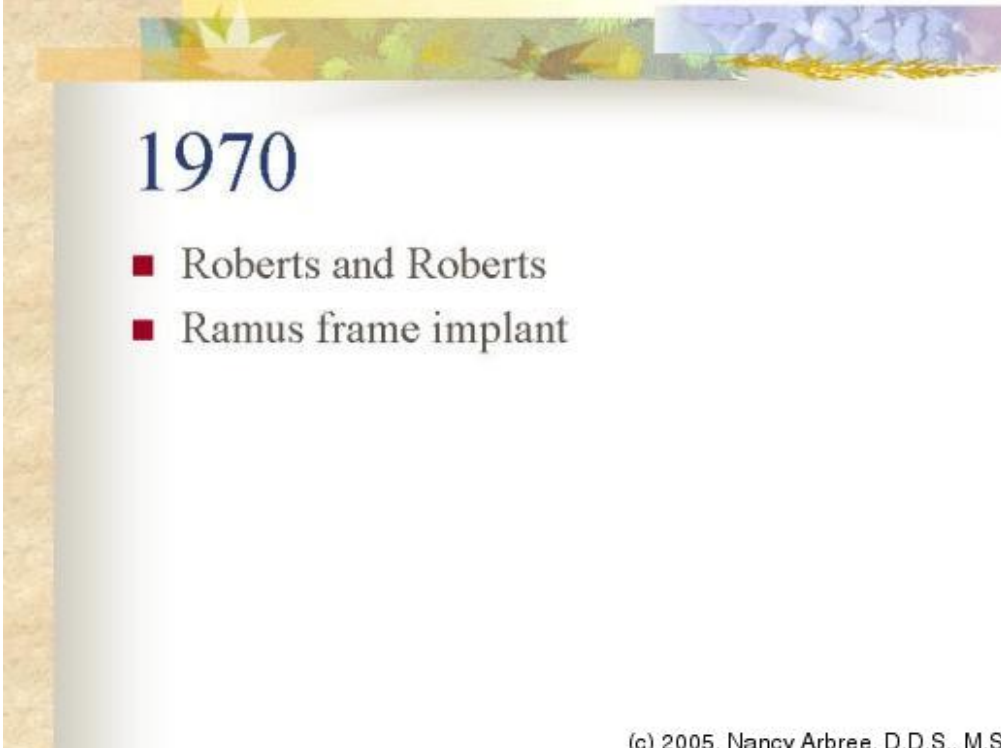
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31.

1970



1970

- Roberts and Roberts
- Ramus frame implant

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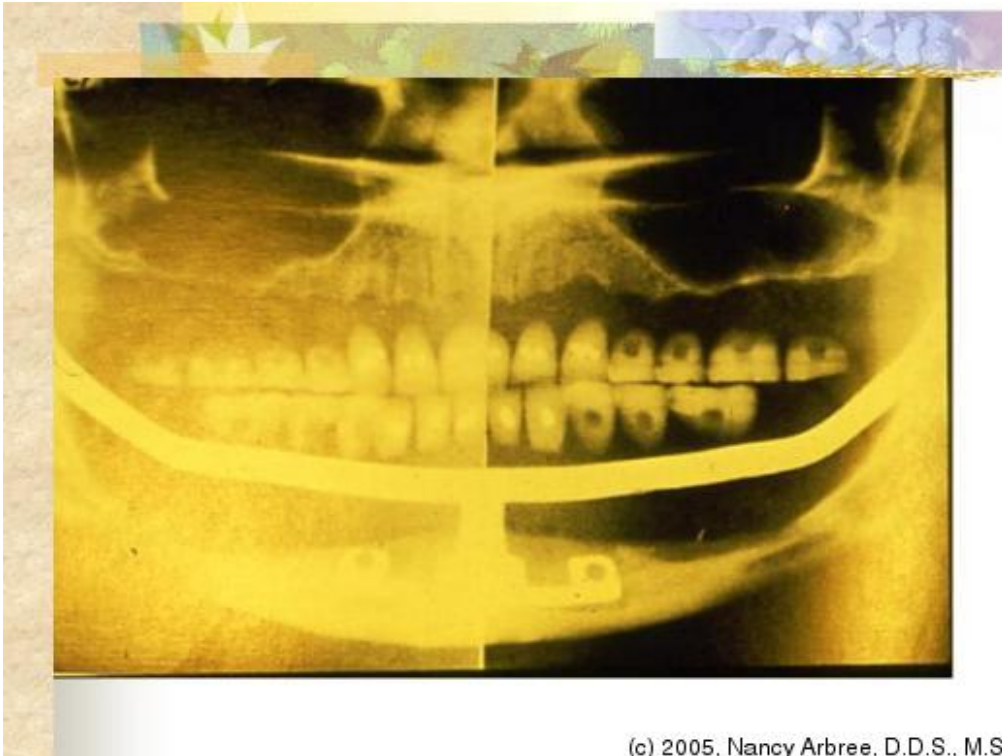
32.

History of Dental Treatment: Slide 37



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33. History of Dental Treatment: Slide 38



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34. History of Dental Treatment: Slide 39



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35.

## History of Dental Treatment: Slide 40



36.

\*1977

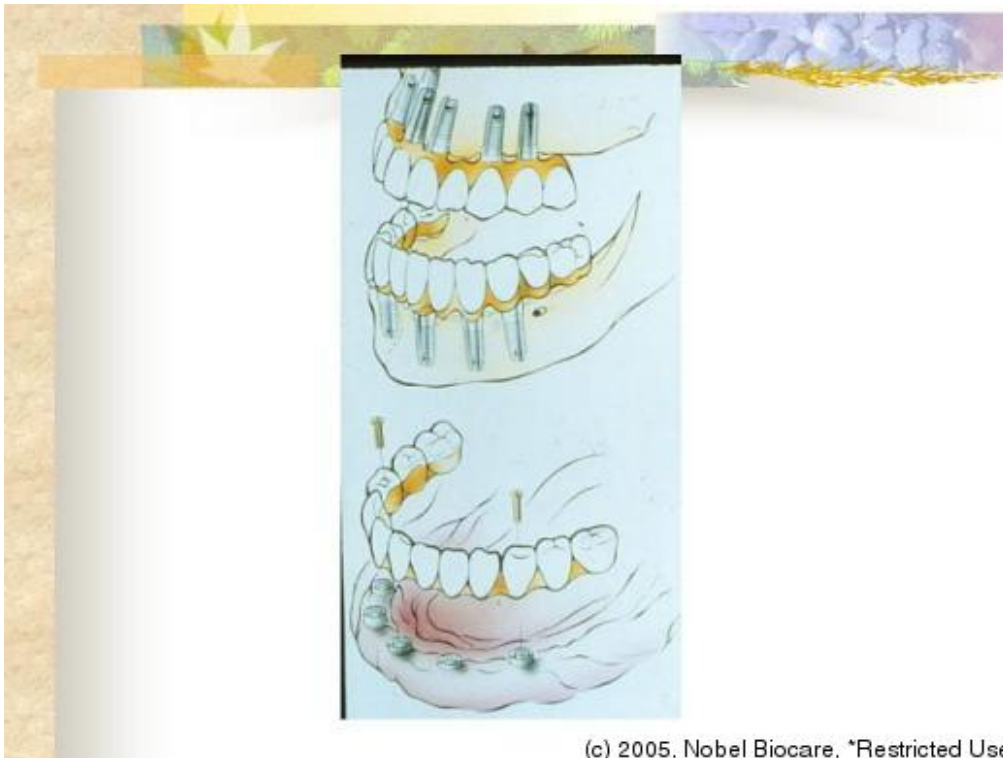
## \*1977

- P.I. Branemark
- Branemark or NobelBiocare Implant
- Reported results of prospective clinical research trials of totally edentulous patients restored with dental implants (since 1952).
- Revolutionized implant dentistry

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37.

## History of Dental Treatment: Slide 42



38.

1980's

## 1980's

- 1981: ITI – non-submerged implant system
- 1985: Bicon (Driskell, Stryker and Bicon)
- 1987: IMZ (Kirsch, Babbush and Mentag)
- 1989: 3i (Lazzara)

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39. History of Dental Treatment: Slide 46



40. History of Dental Treatment: Slide 47



41.

## History of Dental Treatment: Slide 48



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42.

1986


# 1986

- The year that root form dental implants superseded the blade implant as “the most frequently placed type of implant”

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43.

1984-present



## 1984-present

- 1984: CT Scan
- 1987: Sinus lift
- 1988: Nerve transposition
- 1989: Pterygoid implants
- 1991: Guided tissue regeneration (GTR)
- 1995: Distraction osteotomies and split ridge technique

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44.

Success Rates


# SUCCESS RATES



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45.

## Consensus Conferences



### CONSENSUS CONFERENCES

- June 1978: Harvard. An implant should provide functional service in 75% of the cases for 5 years.
- 1988: NIH. Recognized 3 main types of dental implants.
- 1989: Albrektsson and Zarb. Criteria for success: 85% at the end of 5 years and 80% at the end of 10 years.

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46.

## Types of dental implants:



### Types of *dental* implants:


- Endosseous (within bone): is embedded *in* the bone...
- Subperiosteal (below periosteum): rests *on* the surface of bone...
- Transosteal (through bone): penetrates *through* the mandible...

...and projects through the oral mucosa covering the edentulous ridge

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47.

Branemark:



**BRANEMARK:**

- NobelBiocare
- 94% overall
- 95%+ in mandible
- 90%+ in maxilla
- Similar for other modern root form dental implants

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48.

Subperiosteal:



**SUBPERIOSTEAL:**

- 5 Year: 90-95%
- 10 Year: 65-78%
- 20 Year: 66%

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49.

### Staple (Transosteal):

**STAPLE(Transosteal):**

- 5 Year: 93%
- 10 Year: 87%

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50.

### Vitreous carbon:

**VITREOUS CARBON:**

- 5 Year: 38%

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51.

Blades:

**BLADES:**

- 5 Year: 49-65-75%
- 10 Year: 50%

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52.

Ramus Frame:

**RAMUS FRAME:**

- 4 Year: 95%

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53. Other Factors Affecting Success Rates:



**Other Factors Affecting Success Rates:**

- Bruxism
- Radiation
- Diabetes
- Unknown (5-10% of implant fixtures fail)
- Smoking

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54. Complications:



**Complications:**

<b>Surgical</b>	<b>Prosthodontic</b>
■ Sinus perforation	■ Incorrect fixture placement
■ Soft Tissue Problems	■ Loose abutment/crown
■ Fistula	■ Fractured screws
■ Fixture fracture	■ Materials fracture
■ Paresthesia	■ Speech (maxilla)
■ Jaw fracture	■ Cleaning
■ Loose cover screw	

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